

TECHNICAL MEMORANDUM

CH2MHILL

Field Sampling Plan Addendum 4, TCE Source at Whittier Boulevard

Omega Chemical OU-2

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PROJECT NUMBER: 386743

This Sampling and Analysis Plan (SAP) Addendum 4 has been prepared to support the U.S. Environmental Protection Agency (EPA) in conducting a feasibility study (FS) for the Omega Chemical Superfund Site Operable Unit 2 (OU2).

This Addendum is a supplement to the existing Field Sampling Plan (FSP), *Field Sampling Plan for Omega Chemical Superfund Site Operable Unit 2 Remedial Investigation/Feasibility Study, Addendum 1* (CH2M HILL, 2006a) and *Quality Assurance Project Plan (QAPP) for Omega Chemical Superfund Site Operable Unit 2 Remedial Investigation/Feasibility Study, Addendum 1* (CH2M HILL, 2006b). Addendum 1 was prepared to supplement 2004 SAP (CH2M HILL, 2004a and 2004b). Several Addenda were prepared as part of this additional investigation at OU-2; only relevant Addenda are discussed herein. Addendum 4 was developed in accordance with *EPA Region IX, Guidance for Preparation of a U.S. EPA Region IX, Field Sampling Plan for EPA-Lead Superfund Projects* (EPA, 1993). Since this Addendum is a supplement to the existing FSP, not all sections are included as required in the EPA Region 9 Guidance.

Field activities covered by Addendum 4 include direct-push (Hydropunch®) sampling and soil sampling, plus installation of one shallow well. The purpose of this investigation is to characterize in more detail a source of VOC contamination in groundwater near Whittier Boulevard identified during the Remedial Investigation (RI). The empty lot at 725 Whittier Square was identified as an area of high TCE concentrations in groundwater. The description of the investigation results is included in the RI Report titled *Draft Remedial Investigation Report, Omega Chemical Corporation Superfund Site Operable Unit 2* (CH2M HILL, 2009). All sampling and well installation procedures and methods are explained in detail in Addendum 1.

Direct-Push Hydropunch® and Soil Sampling

Hydropunch® samples were successfully collected at this location during the RI investigation (CH2M HILL, 2009). Additional Hydropunch® and soil samples will be collected to help identify the property that is the source of groundwater contamination.

Three locations are proposed for Hydropunch® sampling (Figure 1); one near the southern end of the empty lot (725 Whittier Square) to characterize the southern extent of the high TCE concentrations in groundwater and two to the northwest of the empty lot to characterize groundwater concentrations upgradient of previous detections.

Three locations are proposed for soil sampling (Figure 1); near the former sump at the empty lot (IT Corporation, 1987), upgradient of the highest detected TCE concentrations in groundwater (HPA-13 in Figure 1) in this area; near a former dip tank (west of HPA-17 on Figure 1); and near a former painting booth (northwest of HPA-17 on Figure 1).

One Hydropunch® groundwater sample and two soil samples will be collected at each of the sample locations. The soil samples will be collected from direct-push soil borings at depths of approximately 10 feet and 30 feet below ground surface. All locations may be slightly changed based on utility clearance and site access.

Monitoring Well Installation

One shallow monitoring well will be installed on Whittier Boulevard directly downgradient from the TCE Source at Whittier Boulevard (Figure 1). The drilling method will be hollow-stem auger with a continuous core barrel or roto-sonic with continuous core. The well will be completed with a two-inch diameter, 15-foot PVC screen and a five foot sump at the bottom; the screen will be placed from about one foot above to about 15 feet below the encountered water table. The anticipated depth of the boring is approximately 110 feet based on the depth to groundwater at nearby MW12 (approximately 88 feet below ground surface). The well will be developed by swabbing, bailing, and pumping, and completed with a flush, traffic-rated wellhead. The well will be surveyed after complete installation.

Laboratory Analysis

The groundwater and soil samples will be analyzed for VOCs, SVOCs, and 1,4-dioxane using methods listed in the attached EPA Region 9 sample coordination center (RSCC) Superfund analytical request form. The analytical methods are further described in Addendum 1 (CH2M HILL, 2006a and 2006b).

For soil, six EnCore samples (plus duplicates) and one four-ounce jar (for waste characterization of drill cuttings) will be collected for VOC analysis. One metal sleeve will be collected for SVOC and 1,4-dioxane analysis. The sleeve must contain no less than 150 grams of soil (one 1-inch diameter, six-inch length sleeve is a minimum). Each sample sleeve will be capped on both ends, taped over the caps, and placed in a ziplock bag before storing a shipping cooler.

References

CH2M HILL. 2004a. *Field Sampling Plan for Omega Chemical Superfund Site Operable Unit 2 Remedial Investigation/Feasibility Study*. Prepared for the U.S. Environmental Protection Agency. July.

CH2M HILL. 2004b. *Quality Assurance Project Plan Omega Chemical Superfund Site Operable Unit 2 Remedial Investigation/Feasibility Study*. Prepared for the U.S. Environmental Protection Agency. July.

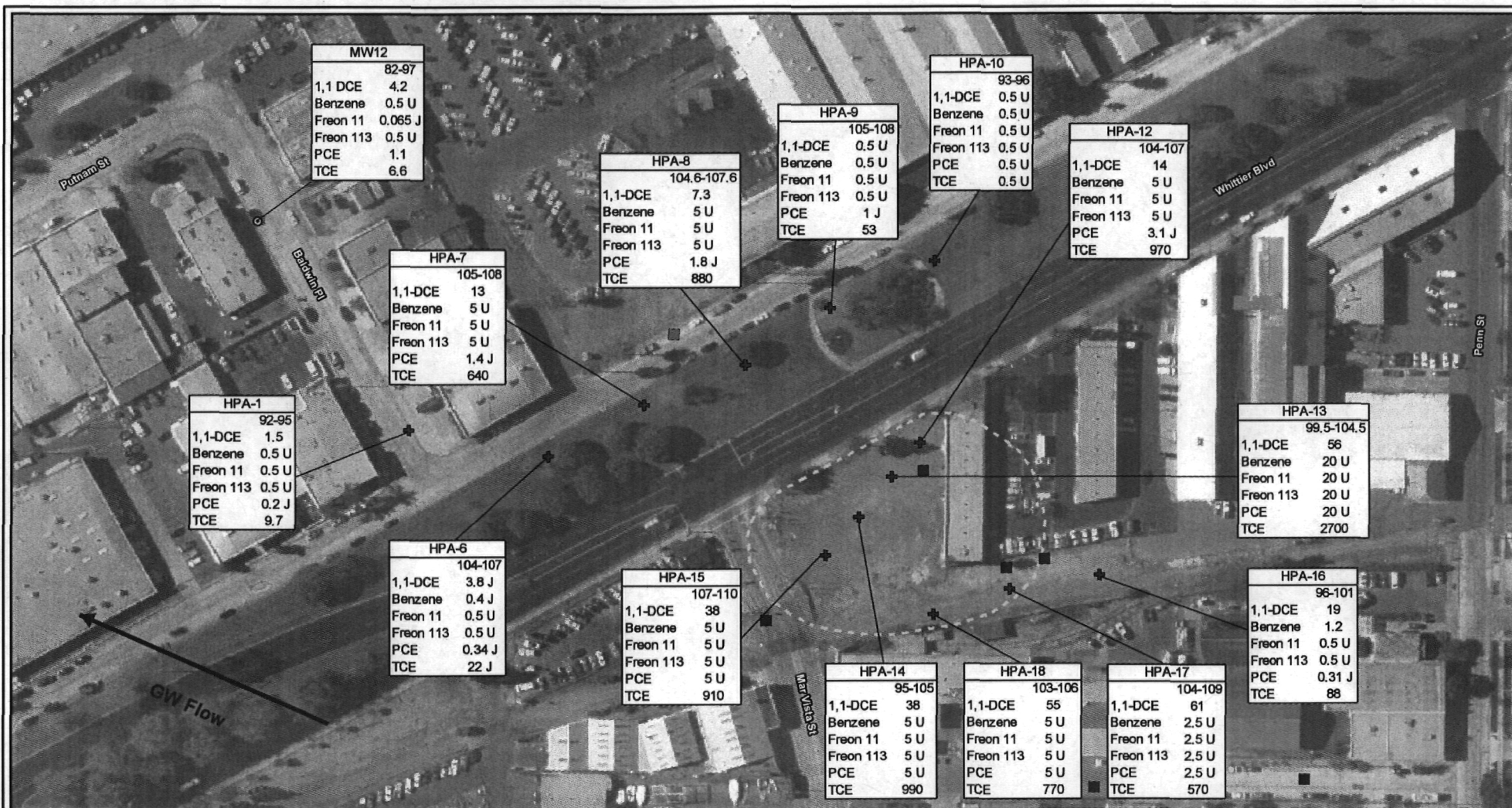
CH2M HILL. 2006a. *Field Sampling Plan for Omega Chemical Superfund Site Operable Unit 2 Remedial Investigation/Feasibility Study Addendum 1*. Prepared for the U.S. Environmental Protection Agency. November.

CH2M HILL. 2006b. *Quality Assurance Project Plan Omega Chemical Superfund Site Operable Unit 2 Remedial Investigation/Feasibility Study Addendum 1*. Prepared for the U.S. Environmental Protection Agency. November.

CH2M HILL. 2009. *Draft Remedial Investigation Report, Omega Chemical Superfund Site Operable Unit 2*. Prepared for the U.S. Environmental Protection Agency. March.

IT Corporation. 1987. *Preliminary Environmental Site Assessment Report Preston Weed Control Company*. Prepared for Union Pacific Corporation. September.

U.S. Environmental Protection Agency. 1993. *EPA Region IX Guidance for Preparation of a U.S. EPA Region IX Field Sampling Plan for EPA-Lead Superfund Projects*.



Aerial Date: March 2004, USGS

Legend

- Hydropunch (2007)
- Potential New Hydropunch
- Potential New Soil Sample
- Potential New Well
- Approximate Potential Source Area
- Depth of Hydropunch
(Feet below Ground Surface)

Chemical Description:

- 1,1-DCE 1,1-Dichloroethene
- Benzene Benzene
- Freon 11 Trichlorofluoromethane
- Freon 113 1,1,2-Trichloro-1,2,2-trifluoroethane
- PCE Tetrachloroethene
- TCE Trichloroethene

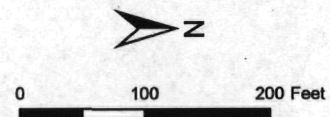


Figure 1
SAP Addendum 4
2007 Hydropunch Results and
Potential Sampling Locations -
TCE Source at Whittier Blvd
Omega Chemical Superfund Site

CH2M HILL

Date: 6/2/2009

Notes: 1) Results posted are in ugd. 2) U - Non-Detect. 3) J - Estimated Value.
S:\GALT\PRJ\OMEGA\2009\MAPFILES\11X17_WHITTIERBLVD.MXD RAINBORN 6/2/2009 11:09:34